



Electro-Voice®
a gulton company

Model LF215 Low-Frequency Speaker System

SPECIFICATIONS

Usable Frequency Response:
40 Hz to 5 kHz

Sound Pressure Level,*
4 Ft at 400 Watts Input:
129 dB

10 Ft at 1 Watt Input:
95 dB

Long-Term Average Power Handling
Capacity:**

400 watts

Nominal Impedance:
4 ohms

Minimum Impedance:
3.3 ohms

6-dB-Down Beamwidth for Possible
Crossover Frequencies, Indicated
Bands of 1/3-Octave Random Noise,
Long Enclosure Axis Vertical,

500 Hz Horizontal:
118°

800 Hz Horizontal:
118°

500 Hz Vertical:
52°

800 Hz Vertical:
37°

Connections

Parallel 1/4" phone jacks (allows
paralleling of multiple speakers)

Enclosure Material:

3/4" plywood

Finish:

Black vinyl with aluminum trim

Dimensions:

98.6 cm (38.8") high,
including casters

38.6 cm (15.2") deep
71.6 cm (28.2") wide

Weight:
46.7 kg (103 lbs)

*Input spectrum: pink noise fed into
shaping filter with 18-dB-per-octave
slopes below 100 Hz and above 800 Hz.

**See POWER HANDLING TEST
section

DESCRIPTION

The Electro-Voice Model LF215 is a high-performance low-frequency speaker system designed for applications where portability is important. The LF215 features two EVM15L speakers connected in parallel and mounted in a 6.5 cubic feet enclosure equipped with heavy-duty casters. The enclosure is constructed of black vinyl-covered 3/4-inch plywood, with protective extruded aluminum trim and recessed handles. The rugged construction of the LF215 makes it ideal for road use.

APPLICATIONS

The LF215 is designed to work well with the Electro-Voice HR series horns and DH series drivers for use in large music stage systems where a portable system is desired. The Electro-Voice XEQ-2 electronic crossover is also an ideal companion to this product.

Four rubber feet are provided on one side of the enclosure so that the LF215 may be laid on its side for stacking. Stacking will approximately halve the rated coverage angle (beamwidth) and increase the on-axis output by 6 dB. 3 dB comes because two paralleled LF215's will draw twice the power from the usual solid-state amplifier. The other 3 dB comes from the reduced coverage angle.

FREQUENCY RESPONSE

Frequency response data was measured in a half-space anechoic (echoless) environment at 10 feet on axis with 4 volts of swept 1/3-octave random noise. The frequency response curve for the LF215 is shown in Figure 2.

DISPERSION

The polar frequency response curves for the LF215 are given in Figure 4. This data was taken using octave-band-centered pink noise with 4 volts applied to speakers and measurements were made with the speaker systems mounted in both the horizontal and vertical positions at 10 feet. From this data, the 6-dB-down points were obtained and a beamwidth-versus-frequency plot was made. This information is shown in Figure 3.

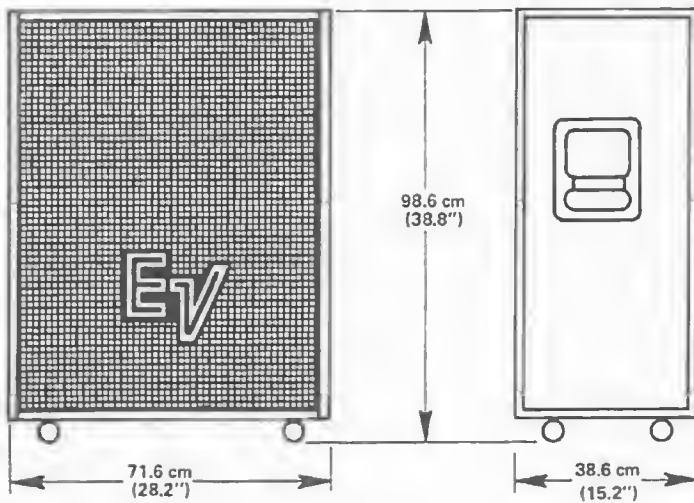


FIGURE 1 – Dimensions

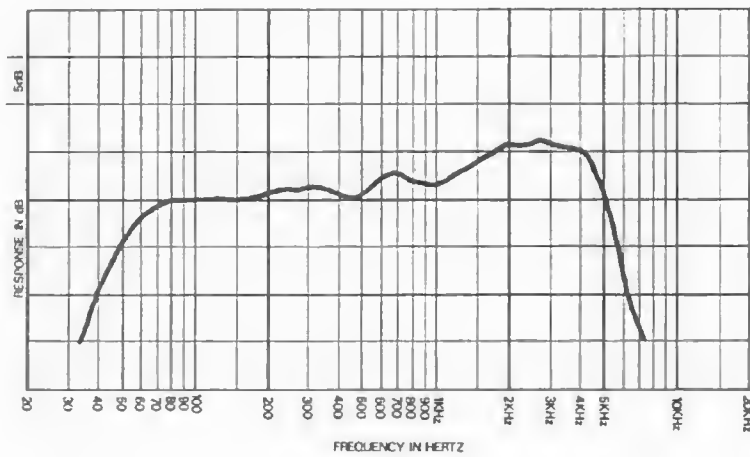


FIGURE 2
LF215 Frequency Response
(Swept 1/3-Octave-Band Pink Noise,
4 V at 10 ft on Axis, Half-Space
Environment)

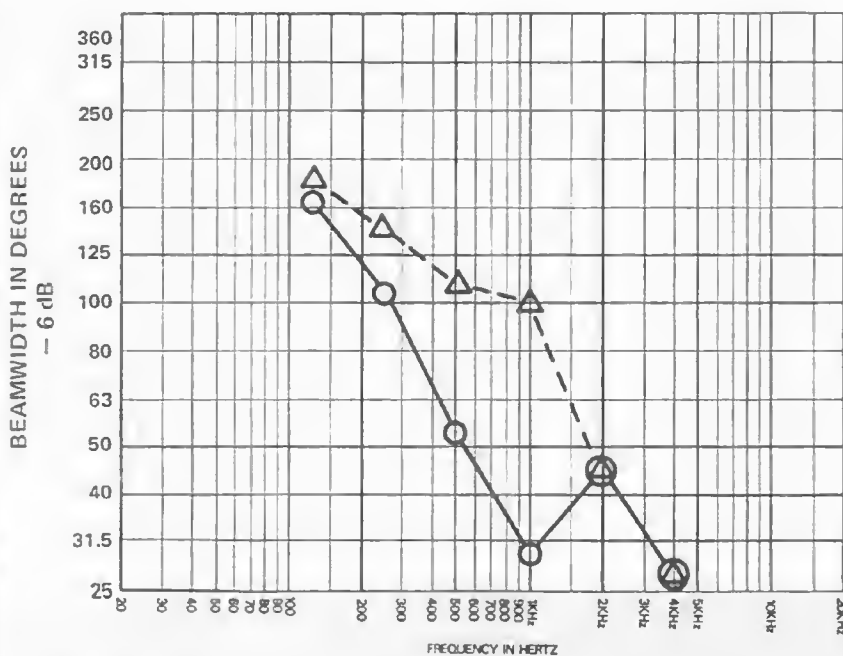


FIGURE 3
LF215 Beamwidth vs. Frequency
(System Long-Axis Vertical)

○ VERTICAL
△ HORIZONTAL

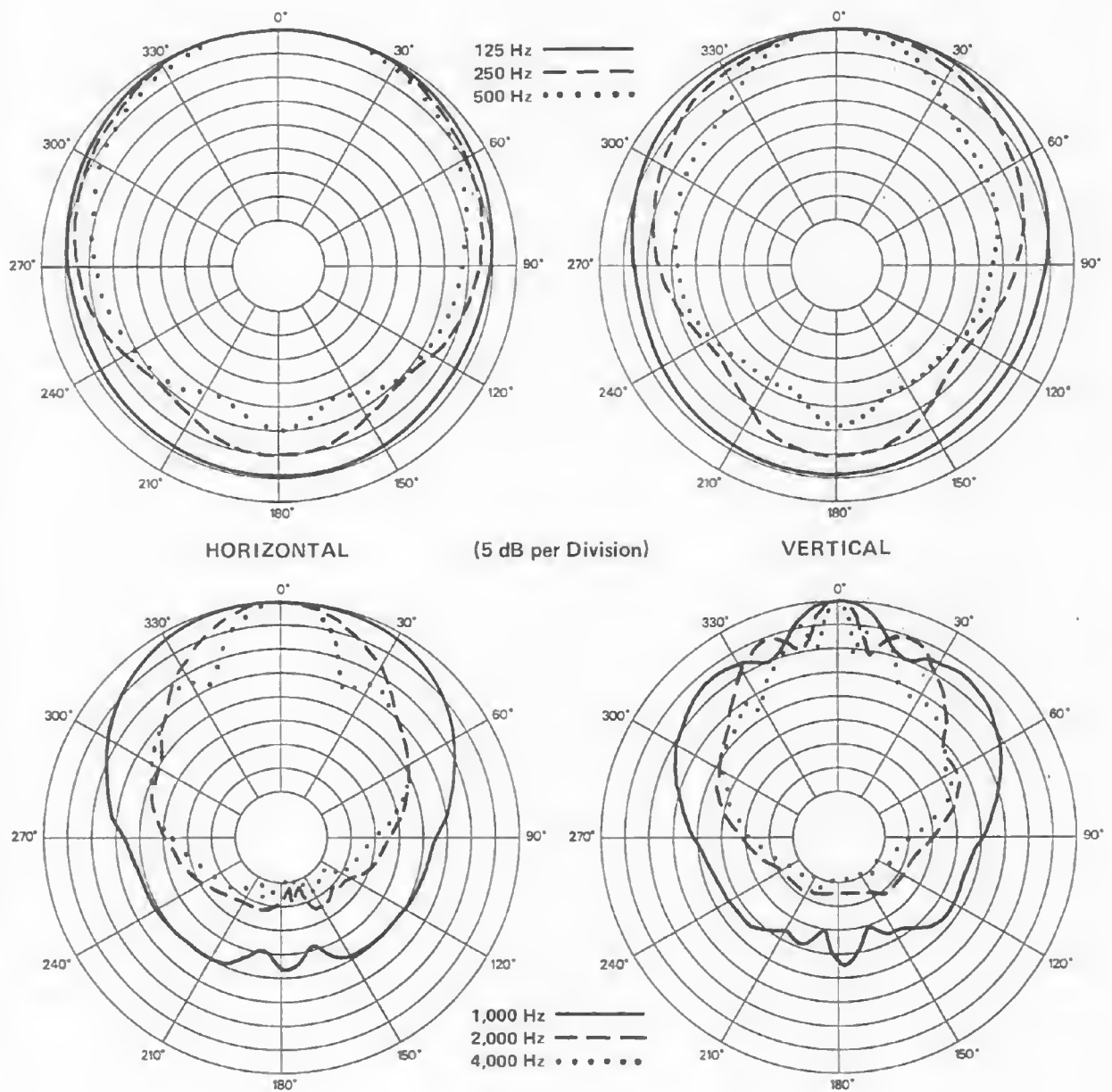


FIGURE 4 — LF215 Polar Response
 (System Long-Axis Vertical,
 4 V RMS of Octave-Band-Limited
 Pink Noise in Anechoic Environment
 10 ft on Axis)

POWER HANDLING TEST

To our knowledge, Electro-Voice was the first U.S. manufacturer to develop and publish a power test closely related to real-life conditions. First, we use a random noise input signal because it contains many frequencies simultaneously, just like real voice or instrument program. Second, our signal contains more energy at extremely high and low frequencies than typical actual program, adding an extra measure of reliability. Third, the test signal includes not only the overall "long-term average" or "continuous" level—which our ears interpret as loudness—but also short-duration peaks which are many times higher than the average, just like actual program. The long-term average level stresses the speaker thermally (heat). The instantaneous peaks test mechanical reliability (cone and diaphragm excursion). Note that the sine wave test signals sometimes used have a much less demanding peak value relative to their average level. In actual use, long-term average levels exist from several seconds on up, but we apply the long-term average for several hours, adding another extra measure of reliability.

Specifically, the LF215 is designed to withstand the power test described in EIA Standard RS-426. The EIA test spectrum is applied for eight hours. To obtain the spectrum, the output of a white noise generator (white noise is a particular type of random noise with equal energy per bandwidth in Hz) is fed to a shaping filter with 6-dB-per-octave slopes below 40 Hz and above 318 Hz. When measured with the usual constant-percentage bandwidth analyzer (one-third octave) this shaping filter produces a spectrum whose 3-dB-down points are 100 Hz and 1200 Hz with a 3-dB-per-octave slope below 1200 Hz. This shaped signal is sent to the power amplifier with the continuous power set at 400 watts into the 2.8 ohms EIA equivalent impedance (33.5 volts true RMS). Amplifier clipping sets instantaneous peaks at 9 dB above the continuous power, or 3200 watts peak (94.7 volts peak). This procedure provides a rigorous test of both thermal and mechanical failure modes.

WARRANTY (Limited) —

Electro-Voice Music Loudspeaker Systems and Accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish or appearance items or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831) or 7473 Avenue (209/625-1330,-1).

Electro-Voice also maintains complete facilities for non-warranty service of E-V products.

Specifications subject to change without notice.